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MYSIDACEA FROM THE COMOROS ARCHIPELAGO
WITH DESCRIPTIONS OF TWO NEW SPECIES

by

TRIS WOOLDRIDGE
&
JAN MEES



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MYSIDACEA FROM THE COMOROS ARCHIPELAGO
WITH DESCRIPTIONS OF TWO NEW SPECIES

by

TRIS WOOLDRIDGE

Dept of Zoology, Box 1600, University of Port Elizabeth, South Africa

&

JAN MEES

Flanders Marine Institute, Vismijn, Pakhuizen 45–52, B-8400 Oostende, Belgium

(With 7 figs & 1 table)

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ABSTRACT

Five species of *Anisomysis* were collected from a coral reef flat on Grande Comore, Western Indian Ocean. *Anisomysis hansen*i Nouvel, 1967, *A. marisrubri* Băcescu, 1973*a* and *A. vasseuri* Ledoyer, 1974 represent new distribution records for the three species. Two new species are described. *Anisomysis unispinosa* sp. nov. is distinguished by the presence of a single spine at the distal end of the telsonic lobes of the deeply cleft telson. *Anisomysis comorensis* sp. nov. is distinguished by the truncate distal border of the telson and its armature.

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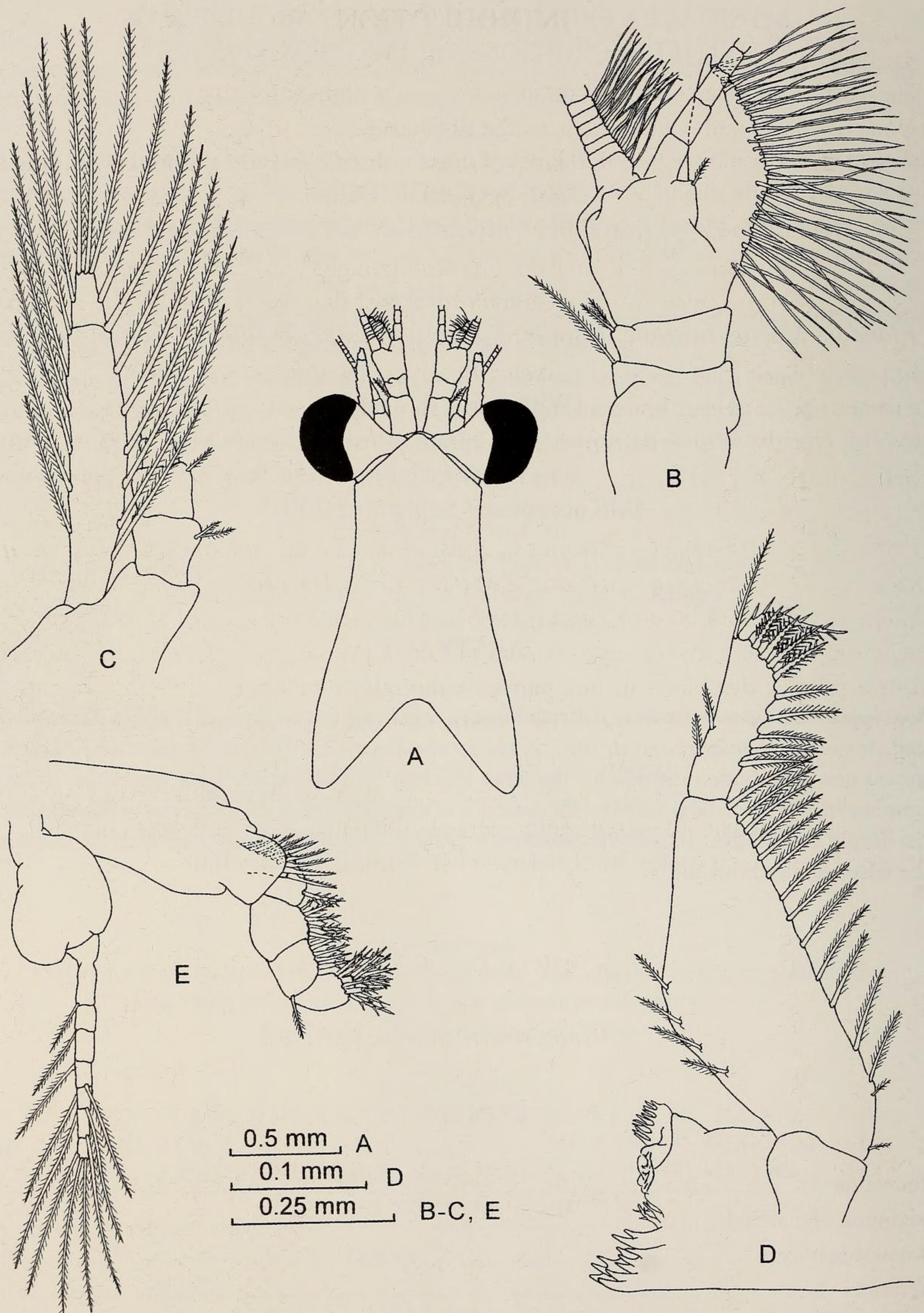


Figure 1

Anisomysis unispinosa sp. nov.

Adult male: (A) anterior part of body and carapace in dorsal view. (B) antennule. (C) antenna. (D) mandible. (E) first thoracic limb.

INTRODUCTION

The Comoros group of four main islands lies approximately equidistant from the African mainland and Madagascar in the northern sector of the Mozambique Channel. Grande Comore is the largest (950 km²) of these volcanic islands. Although fringing coral reefs line about 60% of the 170 km perimeter of Grande Comore, reefs are small and discontinuous (Quod *et al.* 2000).

No mysids are currently known from this archipelago. The present paper describes two new species of *Anisomysis* from Le Galawa coral reef flat (water depth 4–5 m at high tide) at the northern tip of Grande Comore (Njazidja). *Anisomysis marisrubri* Băcescu, 1973a, *A. hansenii* Nouvel, 1967 and *A. vasseuri* Ledoyer, 1974 were also common in samples, extending their previous known ranges (see Table 1, page 101). *Anisomysis marisrubri* was also recently recorded from Mozambique (Wooldridge & Mees 2003), while the second author collected the species in 1994–96 over weed beds at Gazi Bay, providing the first Kenyan record of distribution.

Deprez *et al.* (2001) list 43 species of *Anisomysis*. To this list must be added *A. ijimai* Nakazawa, 1910, *A. mixta australis* Zimmer, 1918, Băcescu, 1973b, *A. spatulispina* Murano, 1995b and *A. nana* Murano, 1995b. A further three species are supplementary: *Anisomysis arabicus* from coastal waters of Oman (Wooldridge & Victor 2004) and the two new species described in this paper. Although members of the genus occur in the warm-water regions of the Indo-West Pacific (Murano 1995a), only 15 of the 50 known species occur in the Western Indian Ocean (Table 1).

Samples at Grande Comore were collected at night with a small benthic sled towed over scattered patches of low reef, interspersed with patches of coral sand and weed. Type specimens are lodged in the South African Museum, Iziko Museums of Cape Town.

DESCRIPTION OF MATERIAL

Anisomysis unispinosa sp. nov.

Figs 1–4

Type species

SAM–A45145. Adult male from Le Galawa reef flat on Grande Comore (11°22'07"S, 43°19'13"E). Collected by T. Wooldridge, 28 October 1997.

Paratypes

SAM–A45146. Three adult males and three adult females.

Description

Morphological characteristics described refer to both sexes, unless otherwise stated. Carapace short, posterodorsal margin emarginated and rounded medially (Fig. 1A). Frontal margin produced into short rostrum covering the base of eyestalks; apex narrowly

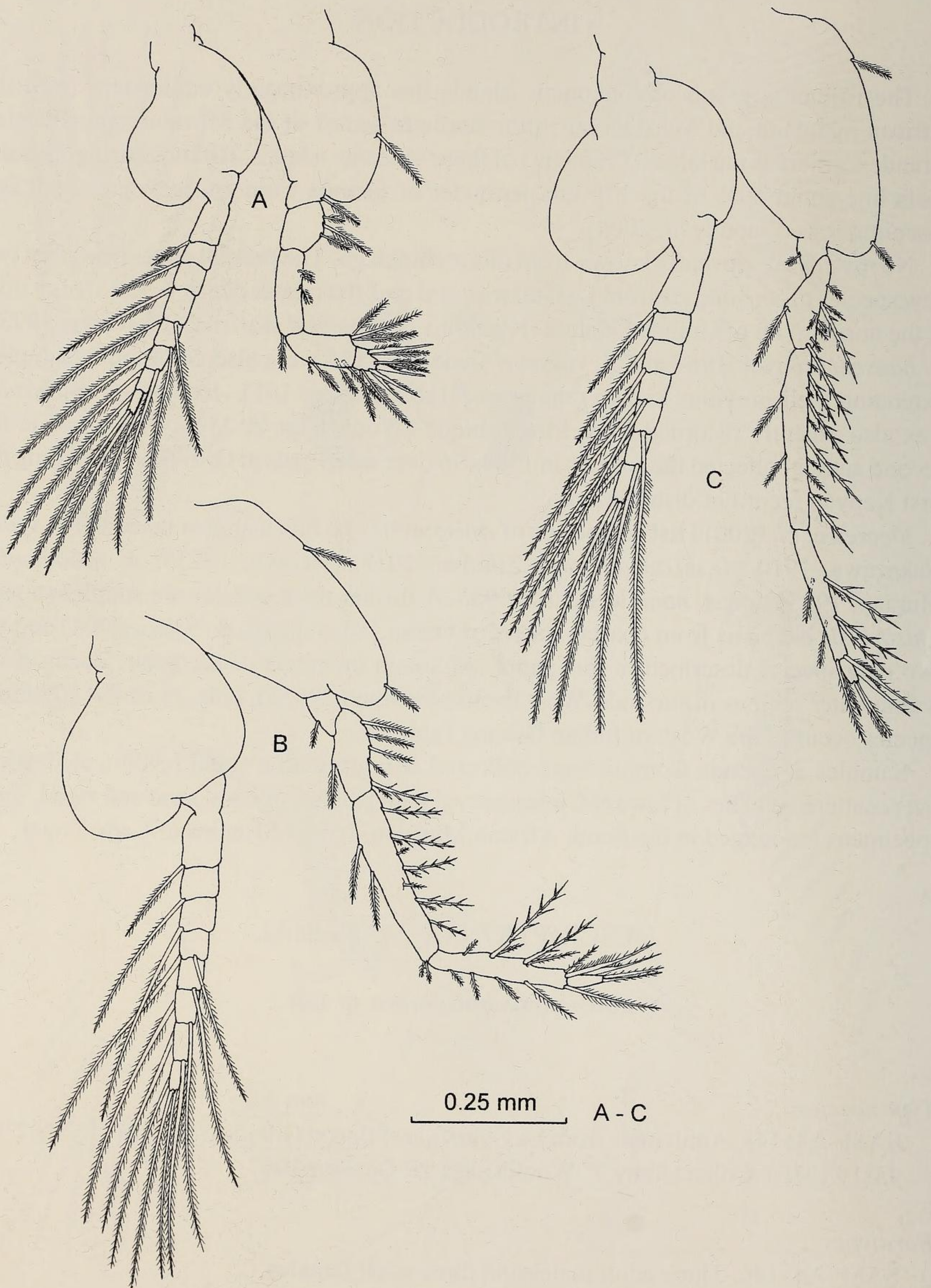


Figure 2

Anisomysis unispinosa sp. nov.

Adult male: (A) second thoracic limb. (B) fourth thoracic limb. (C) fifth thoracic limb.

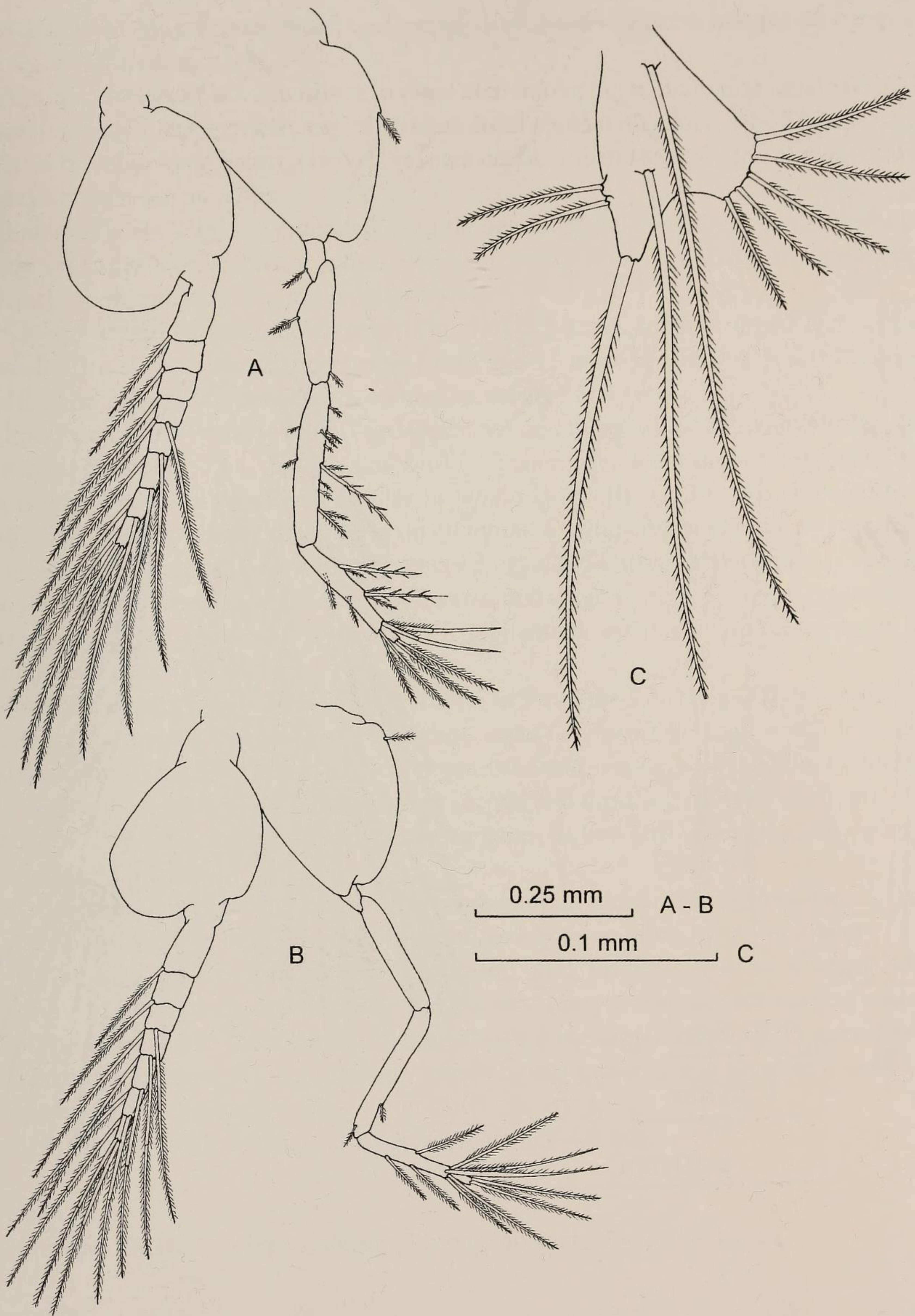


Figure 3

Anisomysis unispinosa sp. nov.

Adult male: (A) seventh thoracic limb. (B) eighth thoracic limb. (C) first pleopod.

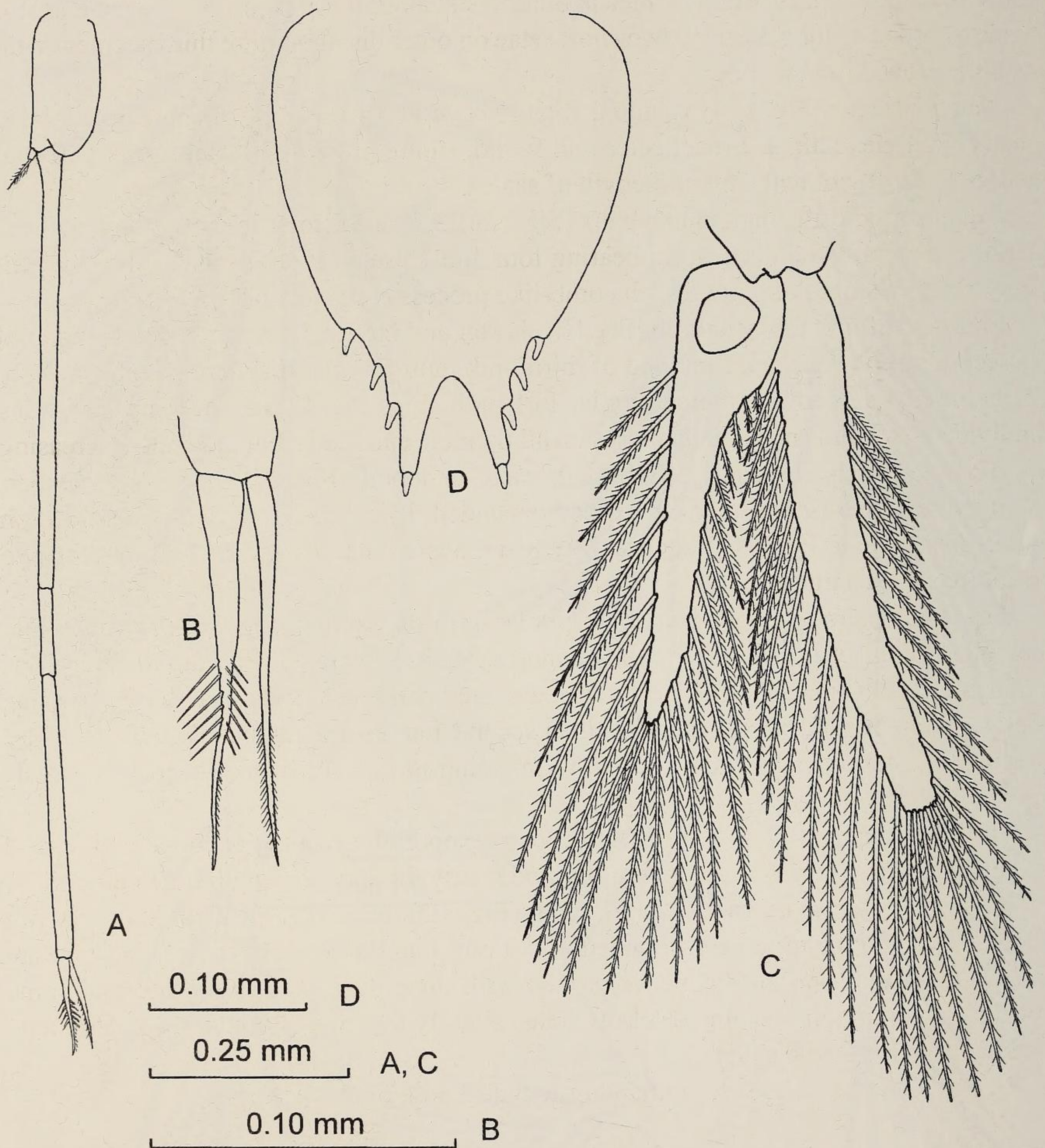


Figure 4

Anisomysis unispinosa sp. nov.

Adult male: (A) fourth pleopod. (B) distal end of exopod of fourth pleopod.
(C) uropod. (D) telson.

rounded. Eyes longer than broad, projecting well beyond lateral margin of carapace. Cornea wider than eyestalk.

Antennular peduncle more robust in male than in female; in male first article (Fig. 1B) equal in length to third article, armed at outer distal angle with a long seta. Second article twice as broad as long, bearing two short setae on outer distal margin; third segment with well developed hirsute lobe.

Antennal scale (Fig. 1C) extending slightly beyond distal end of antennular peduncle, nearly six times long as broad, setose all round, suture present at distal sixth. Antennal peduncle short, not reaching midlength of scale.

Second article of mandibular palp (Fig. 1D) 2.3 times long as broad and without denticles, inner and outer margin bearing four and 15 setae as illustrated; third segment less than half length of second with comb-like process at distal end.

Endopod of first thoracic limb (Fig. 1E) shorter and more robust compared to endopod of second limb (Fig. 2A). Endopod of third limb more slender than that of second limb. Remaining limbs with endopod similar in length (Figs 2B, C, 3A, B), carpopropodus undivided. Ischium shorter than merus on all thoracic endopods, but gradually increasing in relative length posteriorly. Eighth thoracic endopod (Fig. 3B) relatively slender, sparsely setose. Basal segment of exopod expanded (Figs 1E, 2A–C, 3A, B) rounded on outer distal angle. Exopod flagellae 7 or 8 segmented, each segment with one or two plumose setae as illustrated.

First three pairs of pleopods in male similar in form, the first (Fig. 3C) the largest and bearing 3 long setae and two groups of short setae as illustrated. Fourth pair biramous, endopod small (Fig. 4A); exopod three-segmented and reaching beyond base of telson, first segment 5.1 and 1.5 times longer than second and third segments respectively, third segment 3.3 times longer than second, terminating in two stiff setae (Fig. 4B). Female pleopods rudimentary.

Uropods long and narrow, setose all round; exopod longer than endopod and curved slightly outward (Fig. 4C). Exopod of uropod nearly three times length of telson.

Telson 1.25 times as long as basal width (Fig. 4D), bifurcate distally. Cleft one-fifth length of telson, unarmed and rounded at bottom. Lateral margins convex in proximal two-thirds, distal one-third concave, armed with three small spines. Last lateral spine located along margin of lobe of telson, lobes slightly tapering and divergent, each lobe terminating in a single spine.

Length: adult male 3.3–4.1 mm; adult female 3.3–4.2 mm.

Etymology

The specific name refers to the single spine on each lobe of the telson.

Remarks

Anisomysis unispinosa sp. nov. is readily distinguished from allied *Anisomysis* species by the shape and armature of the telson. In *A. unispinosa* sp. nov., the telson is deeply cleft and divergent, without spines around the cleft margin. There are only three pairs of lateral spines located opposite the base of the cleft. All spines on the telson are also of similar length.

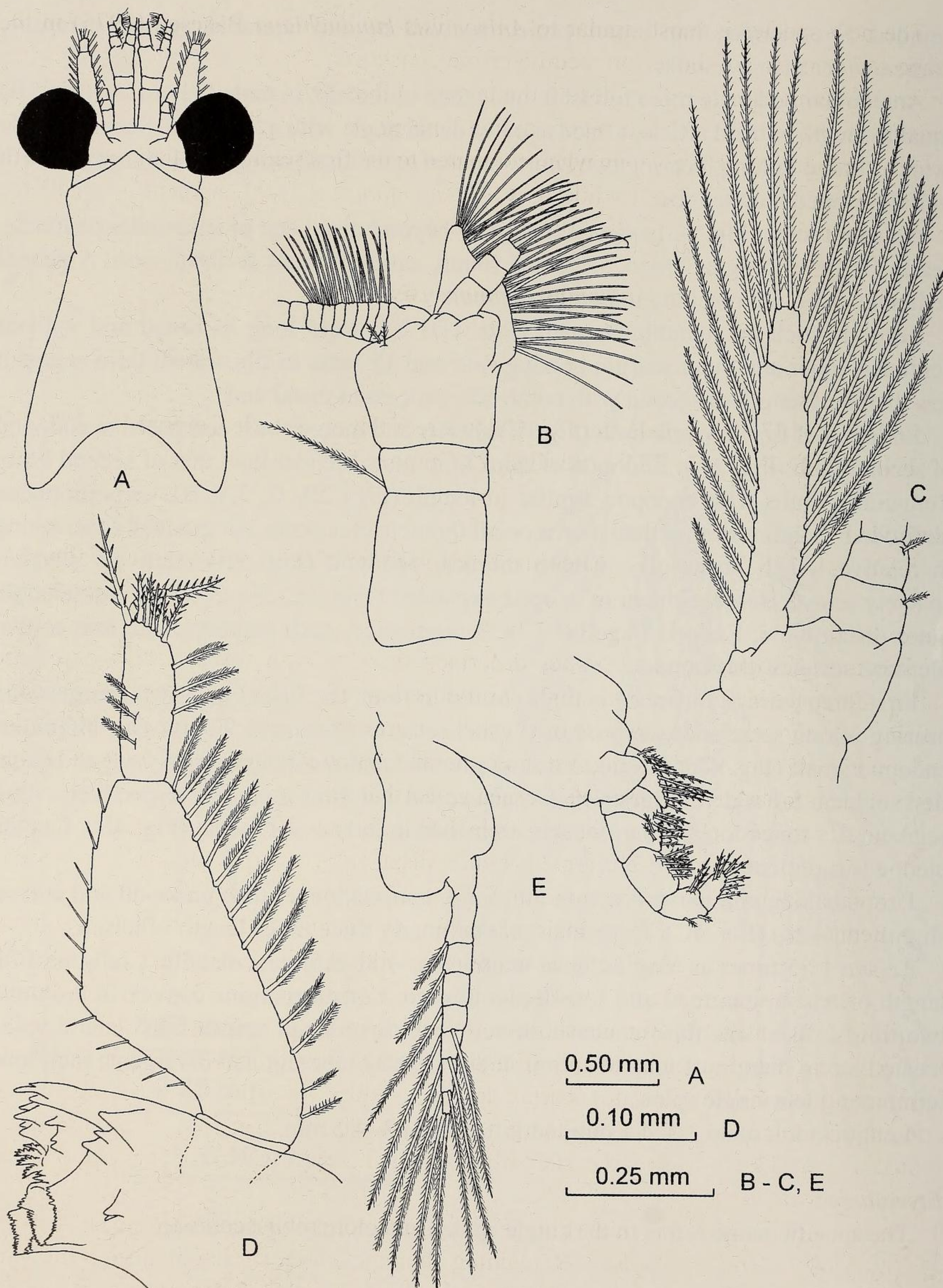


Figure 5

Anisomysis comorensis sp. nov.

Adult male: (A) anterior part of body and carapace in dorsal view. (B) antennule. (C) antenna. (D) mandible. (E) first thoracic limb.

The new species is most similar to *Anisomysis kunduchiana* Băcescu (1975) in the shape and armature of the telson recorded from coastal waters of Tanzania, but the latter differs in having two apical spines on the telsonic lobes. Another clearly distinguishing feature refers to the fourth male pleopod; in *A. unispinosa* sp. nov., the third article of the exopod segment is relatively long when compared to the first segment ($>$ half the length or *c.* 0.67 times by comparison) while in *A. kunduchiana* the third segment is $<$ half the length of the first segment (*c.* 0.48 times length).

Anisomysis comorensis sp. nov.

Figs 5–7

Type species

SAM–A45147. Adult male from Le Galawa reef flat on Grande Comore (11°22'07"S, 43°19'13"E). Collected by T. Wooldridge, 28 October 1997.

Paratypes

SAM–A45148. Three adult males and three adult females from the same locality.

Description

The morphological characteristics described refer to both sexes, unless otherwise stated. Carapace short (Fig. 5A), slightly produced anteriorly into a triangular, obtusely pointed rostrum; extending to base of eyestalks. Posterior border of carapace emarginate and smoothly rounded, exposing last three thoracic somites. Eyes large, projecting well beyond lateral margins of carapace. Cornea wider than eyestalk.

Antennular peduncle more robust in male than in female; in male first article (Fig. 5B) slightly longer than third article, armed at outer distal angle with a long seta. Hirsute lobe well developed, incised on inner margin. Second article twice as wide as long.

Antennal scale (Fig. 5C) in male extending to distal end of antennular peduncle (Fig. 5B), nearly seven times long as maximum width. Lateral margins of scale curved slightly outwards, armed with *c.* 9–10 plumose setae on either side. Distal suture present at distal sixth. Antennal peduncle short, not reaching midlength of scale.

Second article of mandibular palp (Fig. 5D) slightly more than twice as long as broad, inner margin sharply angled, not bearing denticles, with *c.* 11 setae. Outer margin almost straight, bearing *c.* 14 setae along margin. Third article 2.8 times long as broad, with a terminal comb-like process and *c.* six barbed spines. Lateral margins of segment with six setae as illustrated.

Endopod of first thoracic limb (Fig. 5E) short and more robust compared to endopod of second thoracic limb (Fig. 6A). Remaining thoracic limbs similar in form, endopod becoming progressively less setose posteriorly (Fig. 6B, C); carpopropodus undivided. Basal article of exopod expanded, rounded on outer distal angle, flagellate part 7 or 8 segmented.

First three pairs of male pleopods similar in form; first pleopod (Fig. 7A) largest and bearing three long setae and sets of four, one or two shorter setae as illustrated. Fourth

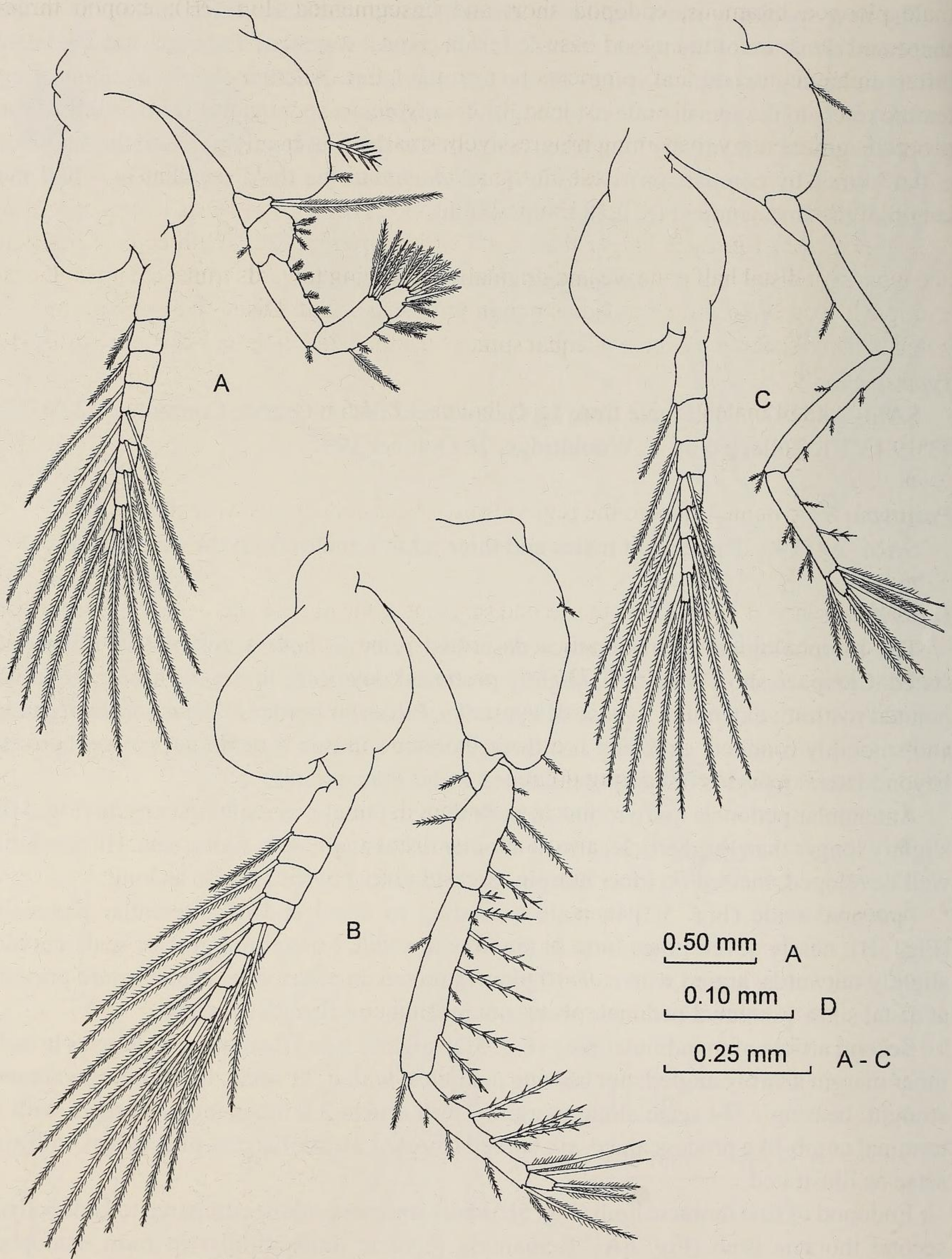


Figure 6

Anisomysis comorensis sp. nov.

Adult male: (A) second thoracic limb. (B) fourth thoracic limb. (C) eighth thoracic limb.

male pleopod biramous, endopod short and unsegmented (Fig. 7B); exopod three-segmented and reaching beyond base of telson. First exopod segment 4.6 and 2.1 times longer than second and third segments respectively, third segment 2.1 times longer than second, terminal setae subequal in length; form typical for the genus (Fig. 7C). Female pleopods rudimentary, becoming progressively smaller posteriorly.

Uropods long and narrow, setose all round; exopod distinctly longer than endopod and curved slightly outward (Fig. 7D). Exopod of uropod nearly three times length of telson. Telson (Fig. 7E) 1.6 times longer than basal width, proximal half with convex margins and unarmed, distal half concave and gradually narrowing towards truncated apex. Distal width less than one-third as broad as maximum basal width. Distal margin with minute notch in some specimens, three unequal spines on either side. Lateral margins with 10–13 spines.

Length: adult male 4.5–5.2 mm; adult female 3.8–4.6 mm.

Etymology

The specific name refers to the region from where collections were made.

Remarks

In the absence of denticles on the second segment of the mandibular palp and in the telson having a truncated apex, *Anisomysis comorensis* sp. nov. displays affinities to *A. hanseni* Nouvel, 1967, *A. levi* Băcescu, 1973b, *A. vasseuri* Ledoyer, 1974, *A. bacescui* Pillai, 1976, *A. chessi* Murano, 1983 and *A. mullini* Murano, 1987. Among these, *A. comorensis* sp. nov. shows closest resemblance to *A. bacescui* in the shape and armature of the telson. It differs from *A. bacescui* in the following points:

1. The carpopropodus of the thoracic endopods three to eight in *A. bacescui* is unsegmented. It is two-segmented in *A. comorensis* sp. nov.
2. The lateral border of the telson in *A. bacescui* has 10–13 spines along the border as opposed to 9 in the new species.
3. In the former species, the fourth pleopod of the male extends slightly beyond the base of the telson, whereas in *A. comorensis* sp. nov. it extends to the tip of the telson.
4. Body size is larger in the new species, measuring up to 5.2 mm compared to 2.7 mm in *A. bacescui*.

The new species also closely resembles *A. hanseni*, but the latter has a distinct telsonic sinus.

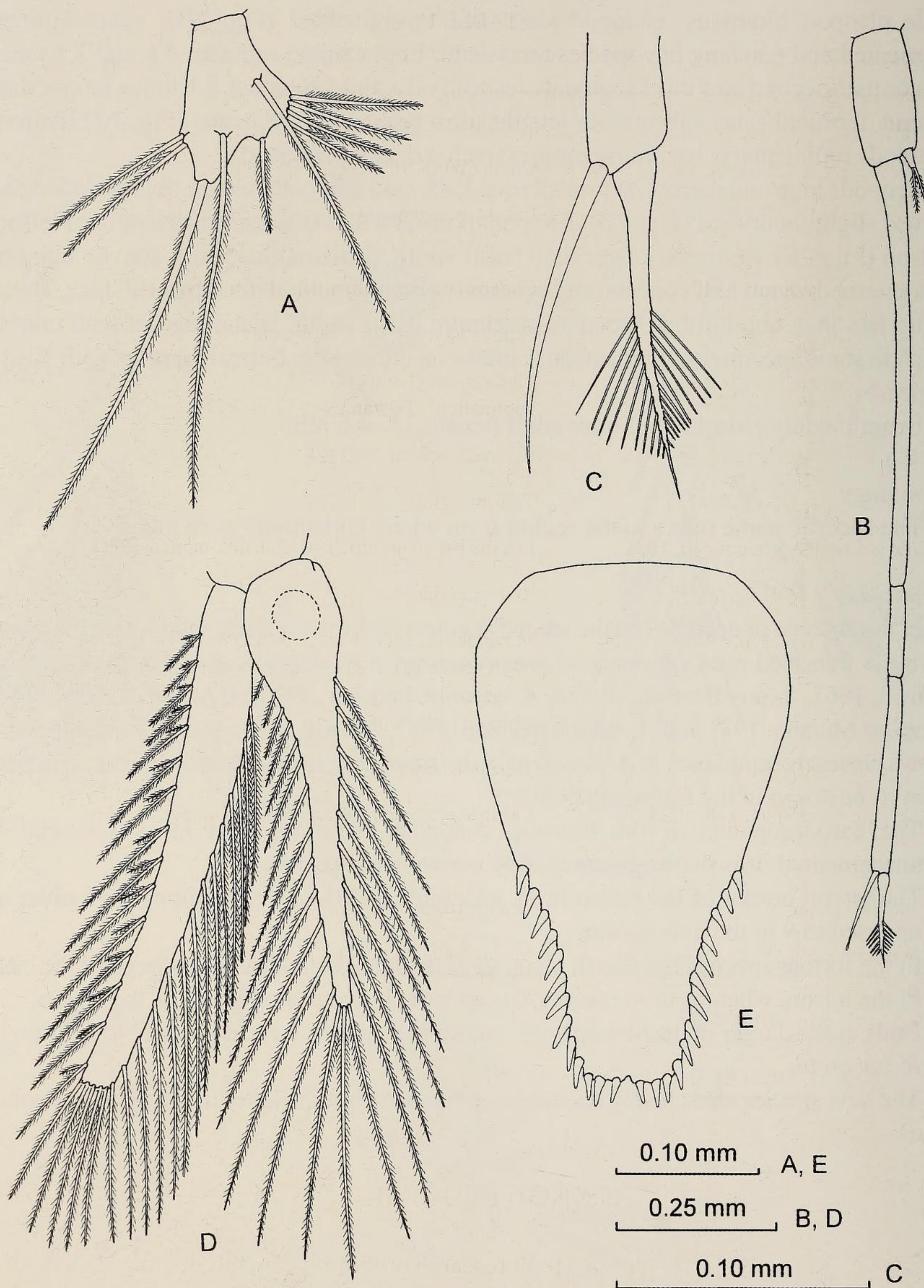


Figure 7

Anisomysis comorensis sp. nov.

Adult male: (A) first pleopod. (B) fourth pleopod. (C) distal end of exopod of fourth pleopod. (D) uropod. (E) telson.

TABLE 1

Distribution of *Anisomysis* species recorded from the Western Indian Ocean Region.

| Species | Distribution |
|--|--|
| <i>A. arabicus</i> Wooldridge & Victor, 2004 | Oman (Wooldridge & Victor 2004) |
| <i>A. bacescui</i> Pillai, 1976 | Lakshadweep archipelago (Panampunnayil 1993), Arabian sea (Müller 1993) |
| <i>A. bifurcata</i> Tattersall, 1912 | Chagos and Farquehan Islands (Tattersall 1912) |
| <i>A. comorensis</i> sp. nov. | Grande Comore (this publication) |
| <i>A. hanseni</i> Nouvel, 1967 | Madagascar (Nouvel 1967), Grande Comore (this publication), Tanzania (Băcescu 1975) |
| <i>A. ijimai estafricana</i> Băcescu, 1973c | Kenya (Băcescu 1973c) |
| <i>A. kunduchiana</i> Băcescu, 1975 | Tanzania (Băcescu 1975) |
| <i>A. laccadivei</i> Panampunnayil, 1981 | Lakshadweep archipelago (Panampunnayil 1981) |
| <i>A. levi</i> Băcescu, 1973b | Red Sea (Băcescu 1973b) |
| <i>A. marisrubri</i> Băcescu, 1973a | Mozambique (Wooldridge & Mees 2003), Tanzania (Băcescu 1975), Kenya (this publication), Red Sea, (Băcescu 1973a, Almeida Prado-Por 1980), Grande Comore (this publication) |
| <i>A. sirielloides</i> Băcescu, 1975 | Tanzania (Băcescu 1975) |
| <i>A. spinata</i> Panampunnayil, 1993 | Lakshadweep archipelago (Panampunnayil 1993) |
| <i>A. truncata</i> Panampunnayil, 1993 | Lakshadweep archipelago (Panampunnayil 1993) |
| <i>A. unispinosa</i> sp. nov. | Grande Comore (this publication) |
| <i>A. vasseuri</i> Ledoyer, 1974 | Madagascar (Ledoyer 1974) |

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